

A CULTURAL RESOURCES SURVEY FOR THE RIVERSIDE WSC
HUNTWOOD PLANT PROJECT IN WALKER COUNTY TEXAS

Antiquities Permit 6357



By

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AN ARCHAEOLOGICAL SURVEY FOR THE
RIVERSIDE WATER SUPPLY CORPORATION HUNTWOOD PLANT PROJECT
IN WALKER COUNTY TEXAS

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ABSTRACT

Brazos Valley Research Associates (BVRA) conducted a Phase I archaeological survey for the Riverside Water Supply Corporation (WSC) Huntwood Plant Project under Antiquities Permit 6357. The project area is 0.5 acre in size. William E. Moore was the Principal Investigator, and he supervised the survey. No new sites were found, and it is recommended that construction be allowed to proceed as planned. The site is viewed as a low probability area because of its distance to the nearest major stream (1070 meters) and a shallow sandy mantle. Copies of the final report are on file at the Texas Water Development Board, Texas Historical Commission, Texas Archeological Research Laboratory, BVRA, Everett Griffith, Jr. and Associates, Inc., and Riverside WSC. The records are curated at the Sam Houston Memorial Museum.

ACKNOWLEDGMENTS

I am grateful to the following individuals for their participation in this project. Debbie Fitzgerald, General Manager at Everett Griffith, Jr. and Associates in Lufkin provided maps of the project area and answered specific questions regarding the methods of construction. The client was very helpful and I appreciate the assistance provided by Phillip Burnett (General Manager), Cindy Drake (Office Manager), Virgil Puckett (Field Supervisor), and employees Justin Roberson and Quinn Ashworth. Jean Hughes is the Assistant Curator of Records at the Texas Archeological Research Laboratory, and she assisted with the background research. Lili G. Lyddon of LL Technical Services prepared the figures that appear in this report and edited the manuscript.

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INTRODUCTION

The Riverside WSC plans to construct a control building and gravel drive on an undeveloped tract of land adjacent to an existing water plant in northeast Walker County (Figure 1). The size of the area to be investigated is 1/2 acre. Figure 2 depicts the footprint of the existing plant and the area where the new construction is proposed. Funding for this project will be provided by the Texas Water Development Board, and the representative for this agency is S. Christopher Caran. In a letter from Mr. Caran to Debbie Fitzgerald and Craig Largent (Appendix I), he justifies the need for an archaeological investigation because “there are a number of known archeological sites nearby, the closest of which is potentially significant and located on the same landform as the proposed new construction area.” Harmon Creek is the major stream in the area, and it is 1070 meters to the west. The nearest source of water is an unnamed tributary of Harmon Creek that is 185 meters to the east. Caran also states “this area appears to have potential to support breeding and nesting activity by birds protected under the Migratory Bird Treaty Act.” Any required studies for endangered and threatened species for this project will be conducted by an environmental firm not affiliated with BVRA. The project area is depicted on the 7.5' USGS topographic map Riverside (3095-432) (Figure 3). The cover photo shows the exposed surface in the foreground and the existing plant in the background.

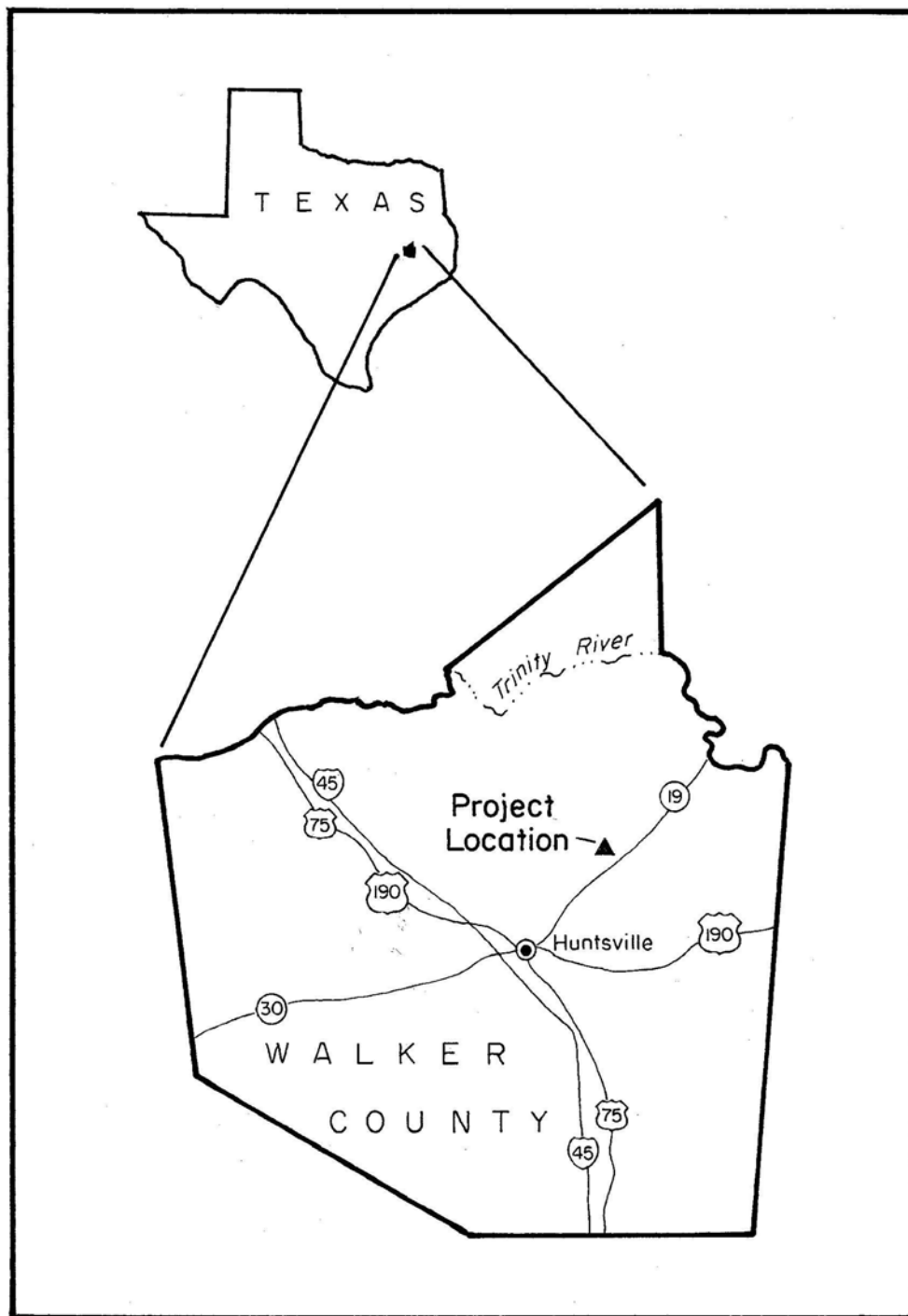


Figure 1. General Location

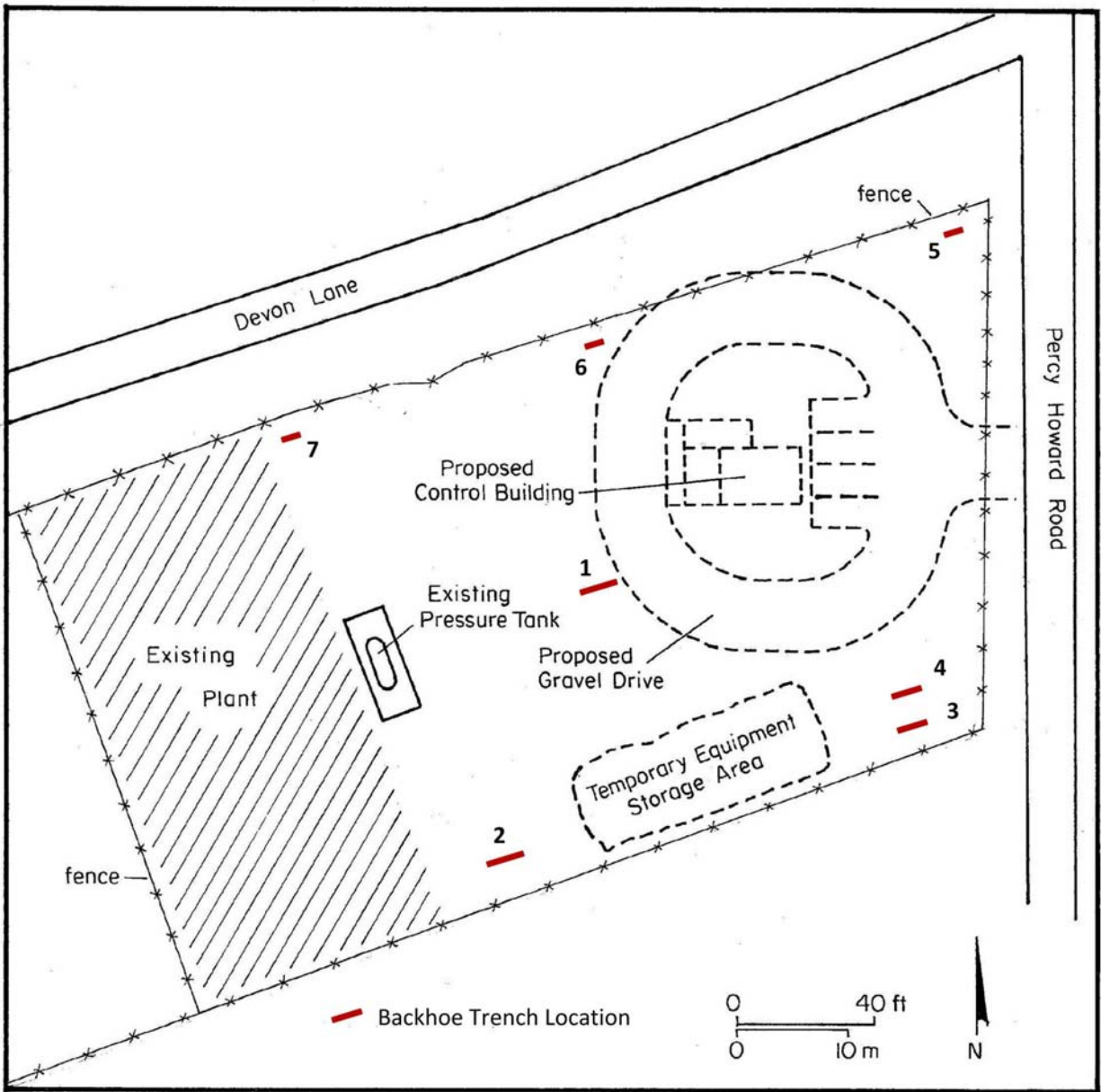


Figure 2. Project Area

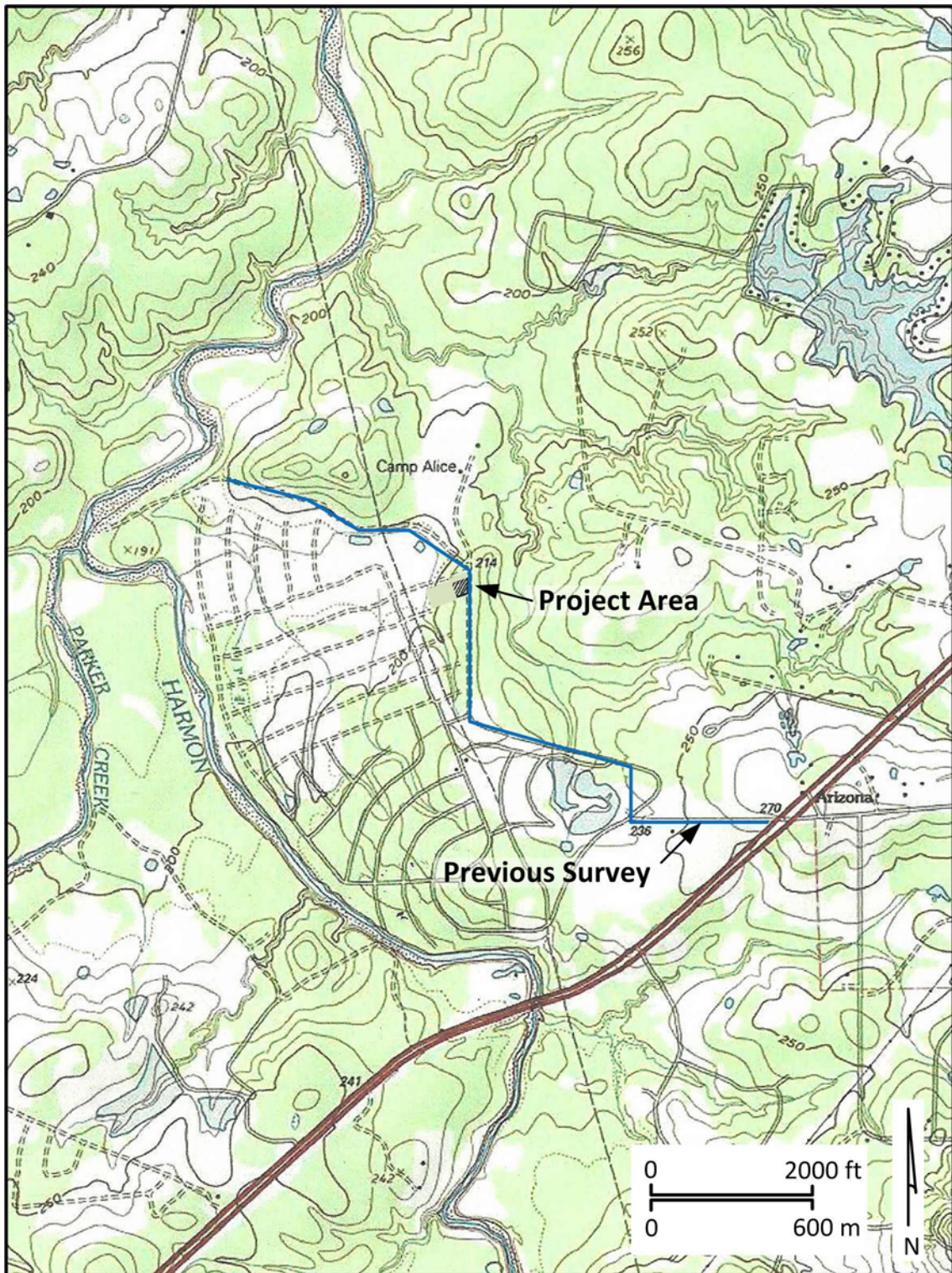


Figure 3. Project Area on Topographic Quadrangle

ENVIRONMENTAL SETTING

The project area is located within the Austroriparian biotic province as defined by Blair (1950) and includes the Gulf coastal plain from the Atlantic Ocean to eastern Texas. The western boundary of this province in Texas is approximated by a line running north from western Harris County to western Red River County. The western boundary of the Austroriparian is also the western boundary of the main body of the pine and hardwood forests of the eastern Gulf coastal plain (Blair 1950:99). According to Thornthwaite (1948), these forests are limited on the west by available moisture.

The Project Area is located within the loblolly pine, shortleaf pine, and upland hardwood plant community as defined by the United States Forest Service for the four National Forests in East Texas. According to Ippolito (1983:6-7), the major forest cover types in this community include loblolly pine, shortleaf pine, slash pine, post oak, southern red oak, white oak, black oak, blackjack oak, black gum, sweet gum, American elm, red maple, hickories, and beech. Approximately 70 percent of East Texas is currently occupied by the Piney Woods with Post Oak Savannah and Blackland Prairie in the rest of the region (Boyd and Howard 1988:4). Keller (1974:139-156) believes that deciduous trees may have been more numerous during most of the Holocene and were probably more important resources to prehistoric populations than the modern flora would suggest.

The vertebrate fauna of the Austroriparian is considered typical of that to the east. Blair (1950:99) states that at least 47 species of mammals occur or have occurred there in recent times. Known types include at least 29 species of snakes, 10 lizards, 2 land turtles, 17 anurans, and 18 urodeles. Ippolito (1983:11) states that there is an inadequate sample of faunal material for the area in an archaeological context. Therefore, assumptions concerning prehistoric exploitation of animals must be based on historical accounts and current populations.

A study by Keller (1974:78-81) of the paleoecology of the middle Neches region lists those mammals most likely to have been hunted in the area. They are Whitetail deer, Cottontail rabbit, Swamp rabbit, Grey squirrel, Fox squirrel, Flying squirrel, Raccoon, Opossum, Red fox, Grey fox, Woodchuck, Bobcat, Spotted skunk, Striped skunk, Mink, Otter, Long-tailed weasel, and Muskrat. According to Ippolito (1983:11), this list excludes many species of birds, especially migratory fowl, and fish that can still be found in the area. Species not found in the area today include black bear, beaver, and wild turkey. These were once numerous but were eradicated by uncontrolled hunting and timber harvesting that irreparably altered their habitats. Bald Eagles nest in the general area. Since they prefer to build a nest close to water, it is unlikely that the project area could be considered a likely habitat for this species because the nearest dependable source of water is Harmon Creek 1070 meters to the west. There are only about six trees in the project area, and it is not likely that a pair of eagles would nest where humans are present on a daily basis.

The weather consists of hot summers and cool winters. An occasional cold front may cause temperatures to drop below freezing, sometimes quite suddenly. The January mean minimum temperature for Walker County is 38 degrees Fahrenheit, while the July mean maximum temperature is 94 degrees Fahrenheit. An annual growing season of 234 days above freezing is typical. Prevailing winds are from the south-southeast. Rainfall is uniformly distributed throughout the year, and snowfall is rare. The climatic information was taken from the *Texas Almanac: 2004-2005* published by the Dallas Morning News (2004).

According to the *Soil Survey of Walker County* (McClintock et al. 1979), the project area is located within the Falba-Almina-Arriola association. Soils in this association consist of moderately deep and deep, sandy and loamy, nearly level to sloping soils on uplands. In the project area the soils consist of one or both of the following types:

Elmina association, gently undulating (11)

These are deep soils on interstream divides. Elmina soils have a surface layer of loamy fine sand about four inches thick. Between four and thirty-two inches the soil is very friable, strongly acid loamy fine sand with scattered yellowish-brown mottles in the lower part. Clay is present to a depth of about sixty inches at which point the underlying material changes to strongly cemented sandstone. This soil is somewhat poorly drained and has a low available water capacity. Permeability and runoff are very slow (McClintock et al. 1979:11).

Falba fine sandy loam, 1 to 5 percent slope (13)

This is a moderately deep soil found on convex uplands. Falba soils have a surface layer of very friable, strongly acid fine sandy loam about seven inches thick. Clay is present from seven to twenty-four inches. Sandy clay loam appears between twenty-four and thirty-three inches at which point the underlying material changes to tuffaceous fine sandstone. This soil is somewhat poorly drained and is often saturated during the winter and spring months. Permeability is very slow and runoff is medium (McClintock et al. 1979:11-12).

ARCHAEOLOGICAL BACKGROUND

According to a bibliography prepared by William E. Moore (1989) and published by the THC, the project area is located in the Southeastern Region of Texas (Figure 4). Most of the early information for Walker County is based on projects in neighboring counties such as the Lake Livingston reservoir study in Polk and San Jacinto counties (Nunley 1963, McClurkan 1967, 1968; Ensor and Carlson 1988), Lake Conroe in Montgomery County (McNatt 1978; Shafer 1968; Shafer and Stearns 1975), Lake Creek Reservoir in Montgomery County (Bement et al. 1987), and the Gibbons Creek Mine in Grimes County (Rogers 1993, 1994). Most of the archaeological work in Walker County revealed the presence of sites associated with the Late Prehistoric period of Texas prehistory based on the presence of arrow points and ceramics. Sites dating to the Paleo-Indian period are rare and are usually identified by isolated finds of early projectile points found on the surface without a direct association of subsurface cultural materials. Sites dating to the Early Archaic or pre-ceramic period are also rare, although examples are known. In 1985, a statistical overview of prehistoric sites in Texas was published by the Office of the state Archeologist (Biesart et al. 1985). At the time of this publication, Walker County contained no Paleo-Indian sites, three Archaic sites, and fifteen Late Prehistoric sites. This source provides statewide, regional, and county statistics. Although it is outdated, it provides valuable comparative data for what was known at that time and the current status of Texas archeology. It is known that the number of recorded sites in Walker County at the time of this study represents an increase from 18 sites in 1985 to 307 sites due to archaeological surveys by professional archaeologists, amateur archaeologists, members of the Houston Archeological Society, and Sandra Rogers (Steward).

Two of the earliest sites in the area are 41MQ41 and 41WA99. At the time site 41MQ41 was investigated, it represented the oldest remains recovered in the Lake Conroe area, and Shafer and Stearns (1975) considered it to be one of the more significant pre-ceramic sites in the area. Another probable early site is 41WA99. Shovel testing revealed a large dart point, flakes, and no ceramics (Moore et al. 1999). Both sites are located in the uplands and this appears to confirm an earlier hypothesis that prehistoric sites having considerable antiquity are present on older landforms in the area. Earlier work in the area tended to sample sites situated on more recent landforms; therefore, the materials from these sites are relatively late. Additional evidence of early sites in Walker County is known from a surface-collected *Angostura* point at 41WA116 (Moore 2001), a possible *Angostura* point found on the surface at site 41WA100 (Moore 1990), and a *San Patrice* point found on the surface at site 41WA83 (Moore 1983).

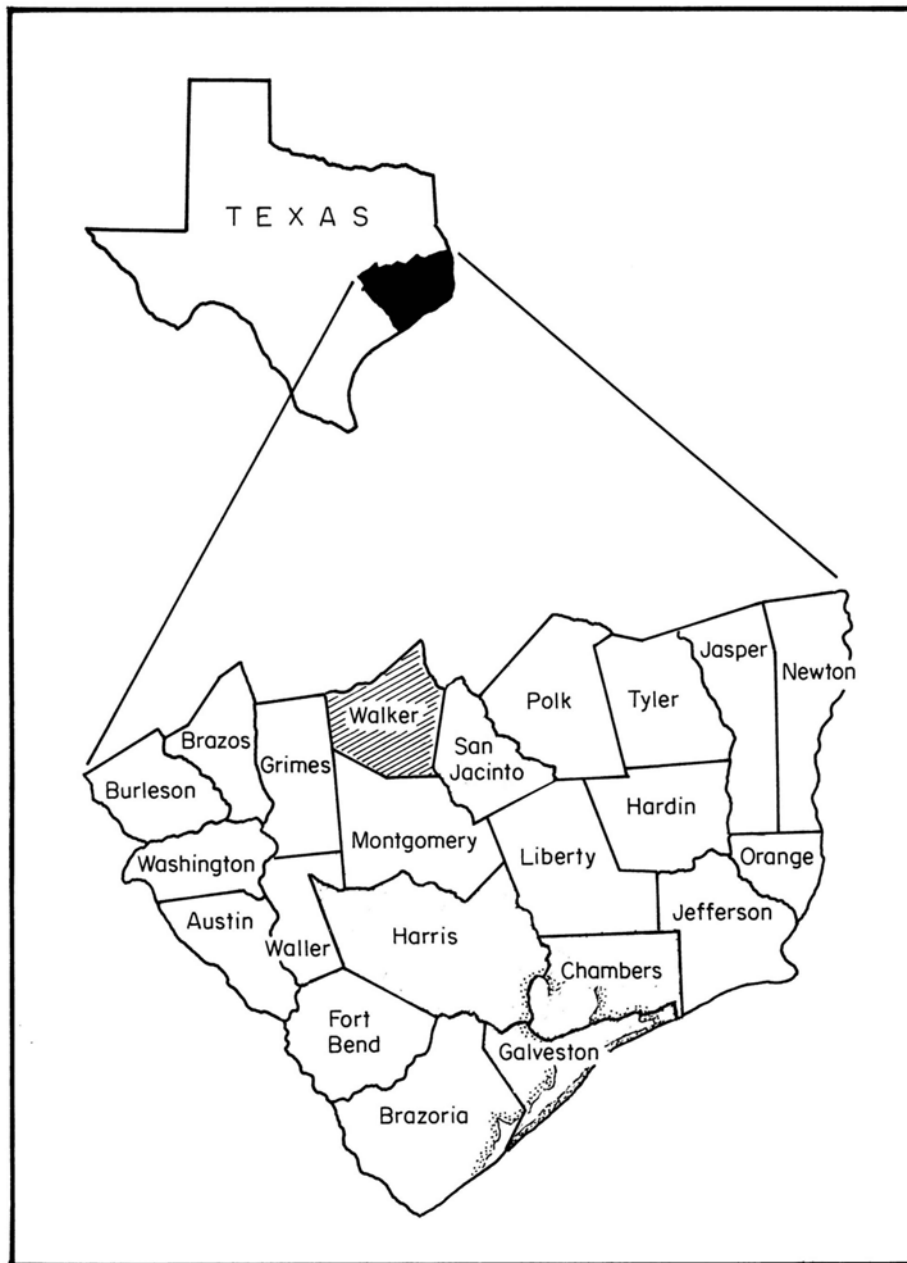


Figure 4. The Southeastern Region of Texas

(After Moore 1989)

Sites that can be considered pure Archaic are also not common. The mixing of cultural materials in the sandy mantle may be responsible for making it difficult to isolate Archaic components from Late Prehistoric components. Also, sites belonging to these two periods are found on the same basic landforms. Late Prehistoric sites contain ceramics and arrow points that are sometimes found in the same stratum as Gary and Kent dart points.

Sites attributed to the Caddo are not known in the area. However, a Holly Fine Engraved sherd found on the surface of site 41WA55 may be evidence of Caddoan interaction in the area (Moore 1986). Sites containing artifacts that date to the time of contact between Europeans and native Indians are also rare in the area. The project area was part of the area inhabited by the historic Akokisa (Newcomb 1986), but no direct evidence of sites associated with this group has been documented in Walker County. Two sites containing artifacts associated with the historic Alabama-Coushatta have been documented in adjacent San Jacinto County. Site 41SJ67 is the best documented evidence of a site associated with this tribe. It yielded European-made artifacts associated with burial that included glass trade beads, clothing decorated with glass beads, and other burial items that date to the 1840s or 1850s (Hsu 1969).

There are several reports that discuss the archaeology of Southeast Texas and synthesize past work in Walker County. These are a file and literature search that assesses seventeen sites in Walker County (Fields 1979), an overview of National Forests in Texas that includes Walker County (Ippolito 1983), a planning document compiled by the Department of Antiquities Protection (Kenmotsu and Pertulla (1993); Roger G. Moore's (1995) Ph.D. dissertation entitled *The Mossy Grove Model of Long-Term Forager-Collector Adaptations in Inland Southeast Texas*; Volume 66 of the *Bulletin of the Texas Archeological Society* which reviews the current state of Archeology in Texas and contains a chapter devoted to Southeast Texas (Patterson 1995); and a database by Moore Archeological Consulting (Moore et al. 1999) created from encoding site data for all known sites in Walker County at the time of his project.

PREVIOUS INVESTIGATIONS

A substantial amount of work by professional archaeologists has been carried out in Walker County. A review of the Texas Archeological Sites Atlas revealed 92 reports and other documents related to Walker County. These manuscripts date from the 1970s (n=6), 1980s (n=23), 1990s (n=28), and 2000 through 2010 (n=35). The majority of work in Walker was conducted by BVRA (n=14), Moore Archeological Consulting (n=7), and the State Department of Highways and Public Transportation (now TxDOT) (n=6).

The first investigation in the area by professional archaeologists was associated with the proposed Livingston Reservoir in Polk, San Jacinto, Trinity, and Walker counties in 1961 and 1962. This study was performed by the Texas Archeological Salvage Project with assistance from members of the Houston Archeological Survey. This study recorded the first seven sites (41WA1 – 41WA7) in Walker County (Nunley 1963).

The next large-scale survey to take place in Walker County was conducted by William E. Moore (1976). This informal survey identified 34 previously unrecorded sites (41WA53; 41WA55 – 41WA80; and 41WA83-41WA89). Sites 41WA74, 41WA75, and 41WA89 are located on landforms adjacent to Harmon Creek. Site 41WA89 is the closest to the project area at a distance greater than 2000 meters. It is located on a sandy hill about 30 feet above Harmon Creek. At the time of the visit by Moore in 1975, the area was covered with trees and brush. Artifacts observed consisted of 1 Gary point, 1 dart point that resembles the Gary and Kent types, 1 biface fragment, two plain ceramic body sherds, several flakes, and a piece of manning fused glass. The two points and the biface fragment are curated at TARL, but the location of the other artifacts is not known. The artifacts mentioned above were found on the surface of two dirt roads in an area that had been platted for a subdivision. It was not possible to make a statement regarding the research potential of this site based on a single visit that did not incorporate shovel testing. Site 41WA74 yielded numerous artifacts including dart points, arrow points, plain and decorated ceramic sherds, miscellaneous bifaces, numerous flakes of local material, and one flake of manning fused glass. The artifacts were found in a garden high above Harmon Creek. It was viewed to have research potential. Site 41WA75 yielded a few projectile points and some pottery, and not enough information was available to determine its research potential.

James E. Corbin (1990) conducted a survey for the Riverside WSC water line expansion project in Walker and San Jacinto counties. His methods included Pedestrian

Survey and shovel testing. A large portion of the project area consisted of replacement of existing lines in already highly disturbed county road rights-of-way and little reconnaissance was conducted in these areas. His efforts were concentrated on new line construction. This survey involved the east side of Percy Howard Road that forms the eastern boundary of the project area. Corbin did not report any sites or cultural materials in this area. That part of his survey nearest the project area is depicted in Figure 3.

Roger G. Moore conducted an in-depth analysis of prehistoric sites in Walker County and coded for distances from sites to water, site distribution by elevation above water, and site distribution by Walker County stream codes (Moore et al. 1999:Appendix IV). He found that sites were most likely to be found 0 to 250 meters from a dependable water source. One site was recorded at 601-650 meters, and one site was recorded at 651 to 700 meters. No sites had been recorded at a distance greater than 700 meters.

The most recent large-scale survey to have taken place in Walker County was conducted by Perttula and Nelson (2008). This study recorded eight sites (41WA289 – 41WA296). Seven are prehistoric and site 41WA295 contained both prehistoric and historic artifacts. Six of the prehistoric sites are in the uplands, and two are on terraces. The majority of the prehistoric sites were identified on the basis of lithic debris and could not be assigned to a temporal period. The vast majority of knapping debris consisted of raw materials that are available in local stream gravels and included quartzite, silicified wood, and chert. The exceptions to this was a single flake of novaculite and flakes of gray (and possibly red) chert that are believed to be non-local. Sites 41WA295 and 41WA296 yielded ceramic sherds that date to sometime between A.D. 1000 and A.D. 1200 or later. One sherd at 41WA296 was tempered with grog and exhibits horizontal brushing marks and fingernail punctuations. This sherd may represent the remains of a cooking jar that was made by a Caddo potter sometime after A.D. 1200.

METHODS

Prior to entering the field, the Texas Archeological Site Atlas and the files at TARL were checked for previously recorded sites and past surveys in the project area and vicinity. Several documents were reviewed during the planning stages of this project. These are various contact reports, a planning document (Biesaat et al. 1985), a bibliography for the Southeastern Region of Texas (Moore 1989), and all volumes of the *Abstracts in Texas Contract Archeology*, all published by the THC. The interested reader is referred to these sources for additional information regarding the prehistory of this area. The soil survey for Walker County (McClintock, Jr., et al. 1979) was reviewed in order to identify the general soil types present in the APE.

The surface visibility was virtually 100%, and the entire site was examined for displaced cultural materials on the surface. The subsurface was examined by one shovel test and seven backhoe trenches (see Appendix II for specific information for the trenches). Excavated soil was screened using ¼ inch hardware cloth. Since the soil profiles at each trench location were fairly uniform, only one backhoe trench profile is illustrated in this report (Figure 5). The first two trenches were dug to depths of 180 cm. Since the sandy mantle never exceeded 32 cm, it was not considered necessary to dig the remainder of the trenches deeper than 100 cm. Backhoe Trench 7 was terminated at 50 cm because of buried trash. This project was documented by project notes, backhoe trench log, and digital photographs. Photographs were taken of selected backhoe trenches, and these are part of the records curated at the Sam Houston Memorial Museum.

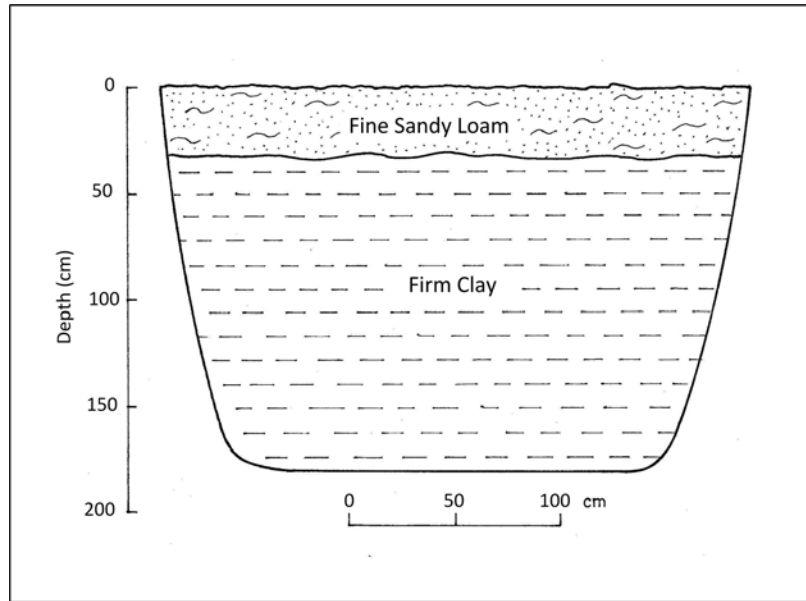


Figure 5. Backhoe Trench 1 Profile (facing north)

RESULTS AND CONCLUSIONS

The archival research confirmed that the Huntwood Plant is located in an area where significant archaeological sites are present. Prehistoric sites in this part of Texas are usually found on sandy hills and terraces adjacent to or in close proximity to dependable sources of water such as rivers, streams, and springs. The nearest recorded prehistoric site to the project area is 41WA89, and it is more than 2000 meters from the current project area. This site is on a sandy hill overlooking Harmon Creek, one of the major drainages in the county. The only information available for this site is a one-time visit by William E. Moore who collected a few artifacts from the surface. Therefore, it was not possible to make a determination regarding its significance.

No evidence of a prehistoric or historic site was found during this investigation. The area was thoroughly investigated by a surface inspection and backhoe trenches. Distance to water is probably the major factor in an absence of prehistoric utilization of the project area. The nearest stream is an unnamed tributary of Harmon Creek that is 185 meters to the east. It is more likely that prehistoric groups would have chosen to occupy landforms closer to Harmon Creek, one of the major drainages in the county, and several such localities are depicted on the Riverside topographic quadrangle. Based on a review of this map, it is my opinion that most archaeologists would consider the site where the new construction is proposed to be a low probability area for a significant prehistoric site. The sandy mantle is shallow in this area with the average depth of fine sand loam over clay between 25 and 30 cm. Since trees with mature root systems have been removed to provide a clearing for future construction at the Huntwood Water Plant, it is highly unlikely that any buried cultural materials would still be in the context in which they were deposited.

RECOMMENDATIONS

Since no previously unrecorded archaeological sites were found in the project area, it is recommended that construction be allowed to proceed as planned. Should cultural materials be exposed during any phase of the construction phase of this project, all work must cease until the situation at the locus of the find can be assessed by the TWDB and THC. Also, should the route of the water line or the location of any auxiliary facilities such as water treatment plants be changed, the TWDB and THC must be notified in case additional survey by a professional archaeologist is required.

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APPENDIX I

LETTER FROM S. CHRIS CARAN REQUESTING

ARCHAEOLOGICAL SURVEY

Dear Ms. Fitzgerald and Mr. Largent,

I reviewed the Texas Historical Commission's Archeological Sites Atlas and other information. The WSC will need to complete a full EA covering the additional project elements, including separate coordination with the required regulatory agencies. The scope of the addenda is roughly equivalent to the original project. The new project area is adjacent to the existing facility, but the property is undeveloped and largely undisturbed. There are a number of known archeological sites nearby, the closest of which is potentially significant and located on the same landform as the proposed new construction area. This area appears to have potential to support breeding and nesting activity by birds protected under the Migratory Bird Treaty Act.

I have other commitments all day today (Monday) through Wednesday and will then be out of the office the rest of this week and all of the following week. If you wish to discuss the project I will be happy to do so during the week of August 27. In the interim, I recommend discussions with a general environmental consultant that has both a qualified archeologist and biologist on staff or with archeological and biological consultants, because the project area should be surveyed for cultural resources and wildlife. There is no need to wait for a separate recommendation from the TWDB to the THC - the archeologist can prepare materials and begin a dialog as part of an application for a survey permit.

The project area is small and completion of the surveys and preparation of the EA should not pose a significant delay or expense. Follow the TWDB's current guidelines for preparation of EA and agency coordination. Submit the draft EA to the TWDB for review prior to requesting reviews from the regulatory agencies.

Best wishes

Chris Caran

APPENDIX II: BACKHOE TRENCH LOG

Backhoe Trench 1

This trench was dug in the approximate center of the site. Backhoe Trench 1 was dug 23 meters from the southern boundary and 33 meters from the eastern boundary. At this trench, fine sandy loam was present to a depth of 32 cm before encountering firm clay. The size of the trench was 60 cm (width) by 281 cm (length), and it was dug to 180 cm.

Backhoe Trench 2

This trench was dug 5 meters from the western boundary and 3 meters from the southern boundary. At this trench, fine sandy loam was present to a depth of 23 cm before encountering firm clay. The size of the trench was 60 cm (width) by 268 cm (length), and it was dug to 180 cm.

Backhoe Trench 3

This trench was dug 6.5 meters from the eastern boundary and 3 meters from the southern boundary. At this trench, fine sandy loam was present to a depth of 29 cm before encountering firm clay. The size of the trench was 60 cm (width) by 230 cm (length), and it was dug to 100 cm.

Backhoe Trench 4

This trench was dug to the north of Backhoe Trench 3. It was placed 6.6 meters from the eastern boundary and 3 meters north of Backhoe Trench 3. At this trench, fine sandy loam was present to a depth of 25 cm before encountering firm clay. The size of the trench was 60 cm (width) by 230 cm (length), and it was dug to 100 cm.

Backhoe Trench 5

This trench was dug in the northeast corner, and in the same area as Shovel Test 1. It was placed 3 meters from the eastern boundary and 2 meters from the northern boundary. At this trench, fine sandy loam was present to a depth of 30 cm before encountering firm clay (same as the shovel test). The size of the trench was 60 cm (width) by 230 cm (length), and it was dug to 100 cm.

Backhoe Trench 6

This trench was dug to the west of Backhoe Trench 5. It was placed 2 meters from the northern boundary and 32 meters to the west of Backhoe Trench 5. At this trench, fine sandy loam was present to a depth of 13 cm before encountering firm clay. The size of the trench was 60 cm (width) by 230 cm (length), and it was dug to 100 cm.

Backhoe Trench 7

This trench was at the gate to Devon Road and west of Backhoe Trench 6. It was placed 3 meters from the western boundary, 2 meters from the northern boundary, and 27 meters west of Backhoe Trench 6. The surface was covered with reddish clay mixed with rock that had apparently been brought in to create a firm surface for vehicles. Instead of a clean stratum of fine sandy loam, various pieces of trash including a large piece of carpet were encountered. It was decided that this was a disturbed area, and the excavation of this trench was terminated at a depth of 50 cm. The size of the trench was 60 cm (width) by 150 cm (length), and it was dug to 50 cm.